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09/547,397	04/11/2000	Hiroshi Satomi	862.C1898	4943

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

LIANG, GWEN

ART UNIT PAPER NUMBER

2172

DATE MAILED: 12/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/547,397

Applicant(s)

SATOMI ET AL.

Examiner

GWEN LIANG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 27 September 2000 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10,14.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This action is responsive to communications: Amendment B, filed on 10/28/02. This action is made final.
2. Claims 1-10, 12-29 are pending. Claims 1, 5, 8, 12, 16, 19, 21, 25 and 28 are independent claims.
3. The remaining objection and rejection set forth in the previous office action paper number 9 is partially incorporated.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 10, 12-15, 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita (U.S. Patent No. 5,297,042), further in view of Salmon et al., "Salmon" (U.S. Patent No. 5,592,375), and further in view of Rapaport et al., "Rapaport" (U.S. Patent No. 5,890,152).

With respect to claim 1, Morita discloses a search method ...comprising:

a keyword list generating step, of extracting one or more keywords typically representing information corresponding to the input information and each of the plurality of candidate bodies of information, extracting a weight value that is set in association with the input information and each of the plurality of bodies of candidate information, and generating a keyword list ... (Abstract, "A document retrieval system includes an inputting unit for inputting a retrieval

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condition including one or a plurality of keywords and a weight value for each keyword..."); (col. 1 lines 36-39, "...a large number of fields [candidate information], each corresponding to one or more keywords, must be determined to correctly retrieve documents which are required by the user."); (col. 4 lines 10-12, "The weight data ... corresponding to the keywords K are supplied from the input analysis unit 1 ...") and

an arithmetic step, of executing a predetermined arithmetic operation for the weight value of each keyword of the input information and the weight value of each keyword of each of the plurality of candidate bodies of information ... (col. 2 lines 58-61, "The associative retrieval unit 2 calculates a relevance value of each document on the basis of the weight data Q_k , the relationship values and the importance values in accordance with predetermined equations [predetermined arithmetic operation]."); (col. 5 lines 25-30, "... the relevance value for each document is calculated on the basis of the relationship value between the keywords and the importance value [weight] of the keyword in every document and then the retrieval result in accordance with the relevance value for every document is obtained."); and

a selection step, of selecting output information from the plurality of candidate bodies of information based on arithmetic results obtained by performing the predetermined arithmetic operation for substantially all keywords of each of the plurality of candidate bodies of information in said arithmetic step (col. 2 lines 58-65, "The associative retrieval unit 2 calculates a relevance value of each document on the basis of the weight data Q_k , the relationship values and the importance values in accordance with predetermined equations. The relevance value of each document represents the degree of relevance in satisfying the user's requirement. The associative retrieval unit 2 supplies the relevance value of each document to the output controller

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3.”); (col. 4 lines 14-36, “The weight data Q_k ... is multiplied by the link factor W_{kj} in the keyword connection link 9. ... In the j -th unit in the hidden layer 6, an addition for generating the sum of the n products $Q_k * W_{kj}$ ($k=1, 2, \dots, n$) which are supplied from n units in the input layer 5 via the keyword connection link 9 and a threshold processing are performed. ... In the i -th unit in the output layer 7, an addition for generating the sum of the n products $K_j * S_{ji}$ ($j=1, 2, \dots, n$) which are supplied from n units in the hidden layer 6 via the keyword-document connection link 10 ... are performed. Then the result D_i is obtained as the relevance value. That is, each unit in the output layer 7 outputs the relevance value D_i as the retrieval result.”).
); and

However Morita does not explicitly disclose an output step, of outputting the input information attached with the output information, wherein the weight value is a numerical value with “-” or “+” given to each keyword in consideration of a respective universally accepted idea on the contents of each of the keywords, wherein the “-” and the “+” mean that the keyword has negative and positive contents, respectively, with respect to its corresponding one of the universally accepted ideas:

Salmon discloses an output step, of outputting the input information attached with the output information (col. 6 lines 65-66, “Selected keywords may also be identified at this time for use in retrieval.”); (col. 11 lines 66-67, “FIG. 7b shows choosing specific characteristics such as companies, educational institutions, or a keyword 704.”); (col. 12 lines 24-26, “The Buyer's Interface displays those products [specific information] 720 with the close matches, along with the matching characteristics 722 [candidate information].); (col. 12 lines 28-32, “The Buyer's Interface shows the Product Profile information 724 on chosen candidates, and indicates whether

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additional information is associated with the candidate's Product Profile. The buyer can display this additional information ...").

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate an output step of outputting the input information attached with the output information as disclosed by Salmon into the search method as disclosed by Morita in order to allow the user to display additional information of interest, including multimedia information (col. 12 lines 31-32).

However the combination of Morita and Salmon does not explicitly disclose that the weight value is a numerical value with "-" or "+" given to each keyword in consideration of a respective universally accepted idea on the contents of each of the keywords, wherein the "-" and the "+" mean that the keyword has negative and positive contents, respectively, with respect to its corresponding one of the universally accepted ideas.

Rapaport discloses that the weight value is a numerical value with "-" or "+" given to each keyword in consideration of a respective universally accepted idea on the contents of each of the keywords, wherein the "-" and the "+" mean that the keyword has negative and positive contents, respectively, with respect to its corresponding one of the universally accepted ideas (See for example: col. 6 lines 27-37, "Typically there are many key words and key phrases with corresponding signed weights contained in a particular Profile Object. The bundle of key words and key phrases may include positive weighted key words/key phrases, typically for synonyms. Negative weighted key words/key phrases, typically for antonyms, identify a particular identity, trait, interest or descriptive term that the Profile Object represents. These key words and key

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phrases have corresponding numerical values which are used to rate retrieved media files in terms of the user's interest.”).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the weight value with positive or negative signs as disclosed by Rapaport into the search method as disclosed by the combination of Morita and Salmon, thus the keyword values are used to rate retrieved media files in terms of the user's interest (See for example; col. 6 lines 34-37).

Claim 2 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Morita discloses a method wherein the predetermined arithmetic operation is multiplication of the weight values, (col. 4 lines 14-16, “The weight data Q_k ... is multiplied by the link factor W_{kj} in the keyword connection link 9.”); and

information corresponding to a large sum value of the arithmetic results is selected as the output information (col. 4 lines 28-34, “In the i -th unit in the output layer 7, an addition for generating the sum of the n products $K_j * S_{ji}$ ($j=1, 2, \dots, n$) which are supplied from n units in the hidden layer 6 via the keyword-document connection link 10 and a threshold processing [for selecting large sum value] are performed. Then the result D_i is obtained as the relevance value.”).

Claim 3 is rejected for the reasons set forth hereinabove for claim 2 and furthermore the combination of Rapaport and Morita discloses a method wherein the weight value includes a sign determined in advance for each keyword (See for example: Rapaport, col. 6 lines 27-37), and when a result of the predetermined arithmetic operation for weight values of a set of keywords has a relatively large positive value, it is determined that a relationship is strong.. (See

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for example: Morita , col. 2 lines 58-63, "The associative retrieval unit 2 calculates a relevance value of each document on the basis of the weight data Q_k , the relationship values and the importance values in accordance with predetermined equations. The relevance value of each document represents the degree of relevance in satisfying the user's requirement [the higher the value, the stronger the relationship]").

Claim 4 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Morita discloses a method comprising: an input step ...; and a first storage step ...; and second storage step.. (Abstract, "A document retrieval system includes an inputting unit [predetermined terminal] for inputting a retrieval condition including one or a plurality of keywords and a weight value for each keyword, an operating unit [management server] having first factors corresponding to relationship values, each relationship value being defined as a degree of the relationship between two keywords out of keywords which are predetermined in the document retrieval system and second factors corresponding to importance values [weight], each importance value being defined as a degree of importance of a keyword [weight of keyword] in each one of a plurality of documents [stored candidate information] which are predetermined in the document retrieval system [information provider].").

Claim 10 is rejected on grounds corresponding to the reasons given above for claim 1.

Claims 12, 13, 14, 15 and 21, 22, 23, 24 are similarly rejected on grounds corresponding to the reasons given above for claims 1, 2, 3, 4.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-7, 16-18 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita (U.S. Patent No. 5,297,042) and further in view of Salmon et al., "Salmon" (U.S. Patent No. 5,592,375).

With respect to claim 5, Morita discloses a search method ...comprising:

an extraction step, of extracting one or more keywords representing selectivity to the input information (Abstract, "A document retrieval system includes an inputting unit for inputting a retrieval condition including one or a plurality of keywords and a weight value for each keyword..."); (col. 1 lines 36-39, "...a large number of fields [candidate information], each corresponding to one or more keywords, must be determined to correctly retrieve documents which are required by the user.");

a selection step, of selecting, as the output information, candidate information having a large sum value of keywords with values close to a value of the extracted one or more keywords from the plurality of candidate bodies of information (col. 2 lines 58-65, "The associative retrieval unit 2 calculates a relevance value of each document on the basis of the weight data Qk, the relationship values and the importance values in accordance with predetermined equations. The relevance value of each document represents the degree of relevance in satisfying the user's

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requirement. The associative retrieval unit 2 supplies the relevance value of each document to the output controller 3.”); (col. 4 lines 14-36, “The weight data Q_k ... is multiplied by the link factor W_{kj} in the keyword connection link 9. ... In the j -th unit in the hidden layer 6, an addition for generating the sum of the n products $Q_k * W_{kj}$ ($k=1, 2, \dots, n$) which are supplied from n units in the input layer 5 via the keyword connection link 9 and a threshold processing are performed. ... In the i -th unit in the output layer 7, an addition for generating the sum of the n products $K_j * S_{ji}$ ($j=1, 2, \dots, n$) which are supplied from n units in the hidden layer 6 via the keyword-document connection link 10 ... are performed. Then the result D_i is obtained as the relevance value. That is, each unit in the output layer 7 outputs the relevance value D_i as the retrieval result.”, wherein not only the sum value of keywords is produced, but also through a threshold processing, it is inherent that the selection is based on a large sum value which is above a set threshold value. Since the relevance value of each document is used in the selection process, it is inherent that keywords with values close to a value of the extracted keywords are used in the calculation process.).

However Morita does not explicitly disclose an output step, of outputting the input information attached with the output information.

Salmon discloses an output step, of outputting the input information attached with the output information (col. 6 lines 65-66, “Selected keywords may also be identified at this time for use in retrieval.”); (col. 11 lines 66-67, “FIG. 7b shows choosing specific characteristics such as companies, educational institutions, or a keyword 704.”); (col. 12 lines 24-26, “The Buyer's Interface displays those products [specific information] 720 with the close matches, along with the matching characteristics 722 [candidate information].); (col. 12 lines 28-32, “The Buyer's

Interface shows the Product Profile information 724 on chosen candidates, and indicates whether additional information is associated with the candidate's Product Profile. The buyer can display this additional information ...”).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate an output step of outputting the input information attached with the output information as disclosed by Salmon into the search method as disclosed by Morita in order to allow the user to display additional information of interest, including multimedia information (col. 12 lines 31-32).

Claim 6 is rejected for the reasons set forth hereinabove for claim 5 and furthermore Morita discloses a method comprising:

a first storage step ... (Abstract, “A document retrieval system includes ... an operating unit ... having ... second factors corresponding to importance values, each importance value being defined as a degree of importance of a keyword in each one of a plurality of documents [stored candidate information] which are predetermined in the document retrieval system [information provider].”). and

a second storage step (Abstract, “A document retrieval system includes an inputting unit for inputting a retrieval condition including one or a plurality of keywords and a weight value for each keyword...”); ...

Claim 7 is rejected for the reasons set forth hereinabove for claim 5 and furthermore the combination of Morita and Salmon discloses a method wherein the input information is specific information corresponding to a predetermined code inputted by a user (See for example: Morita , Abstract, “A document retrieval system includes an inputting unit for inputting a retrieval

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condition including one or a plurality of keywords and a weight value for each keyword..."; col. 1 lines 36-39, "...a large number of fields, each corresponding to one or more keywords, must be determined to correctly retrieve documents which are required by the user."); (See for example: Salmon, col. 6 lines 65-66, "Selected keywords may also be identified at this time for use in retrieval."; col. 11 lines 66-67, "FIG. 7b shows choosing specific characteristics such as companies, educational institutions, or a keyword 704.")

and each of the plurality of candidate bodies of information is information to be attached to the specific information and presented to the user (See for example: Salmon, col. 12 lines 24-26, "The Buyer's Interface displays those products [specific information] 720 with the close matches, along with the matching characteristics 722 [candidate information].; col. 12 lines 28-32, "The Buyer's Interface shows the Product Profile information 724 on chosen candidates, and indicates whether additional information is associated with the candidate's Product Profile. The buyer can display this additional information ...").

Claims 16, 17, 18 and 25, 26, 27 are similarly rejected on grounds corresponding to the reasons given above for claims 5, 6, 7.

8. Claims 8, 9, 19, 20, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita (U.S. Patent No. 5,297,042), further in view of Salmon et al., "Salmon" (U.S. Patent No. 5,592,375), further in view of Rapaport et al., "Rapaport" (U.S. Patent No. 5,890,152), and further in view of Sato (JP. Patent No. 407,044,567).

Claim 8 is rejected on grounds corresponding to the reasons given above for claims 1 and 5. However the combination of Morita, Salmon and Rapaport does not explicitly disclose

a step of quantifying a degree of matching between each information keyword of each of the plurality of candidate information and the one or more user keywords; and

a of selecting, as the output information, from a result obtained by adding quantified values obtained in said quantification step to the arithmetic results.

Sato discloses a step of quantifying a degree of matching and a step of selecting by adding quantified values obtained in said quantification step to the arithmetic results (See for example: Constitution, "This document retrieval device is constituted of a retrieval key word set generation means 2 for analyzing an input document 1 and generating a retrieval key word set 3 for which weighing corresponding to document component elements is performed and a document retrieval means for retrieving the document data base based on the retrieval key word set 3, calculating the weight of respective matched key words for each document obtained as a result and obtaining cumulative weight for the document of the retrieved result. Since the cumulative weight indicating the degree of similarity with the input document is added to the retrieved result, a user can efficiently select the retrieved result by referring to it.", wherein a quantification step is clearly shown in the use of the cumulative weight indicating the degree of similarity and in the selection step, the cumulative weight (equivalent to quantified value) is added to the retrieved result.)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a quantification step and a selection step as disclosed by Sato into the search method as disclosed by the combination of Morita, Salmon and Rapaport, thus a user can efficiently select the retrieved result (last sentence in the Constitution).

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Claim 9 is rejected for the reasons set forth hereinabove for claim 8 and furthermore Morita discloses a method comprising:

a storage step ... (Abstract, "A document retrieval system includes an inputting unit for inputting a retrieval condition including one or a plurality of keywords and a weight value for each keyword, an operating unit having first factors corresponding to relationship values, each relationship value being defined as a degree of the relationship between two keywords out of keywords which are predetermined in the document retrieval system ...")

Claims 19, 20 and 28, 29 are similarly rejected on grounds corresponding to the reasons given above for claims 8, 9.

Response to Arguments

9. Applicant's arguments with respect to claims 1-10, 12-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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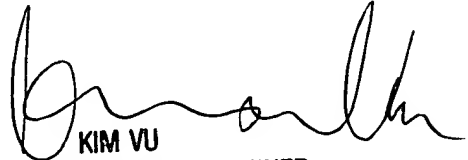
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KIM VU can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

G.L.
December 3, 2002


KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100